JCC Cellar Cooler Range
Installation Manual (December '08 Onwards)

Contents **Page Number**

1. Installation & Safety
- **a) Installation 2**
- **b) Handling 2**
- **c) Application 2**
- **d) Electrical Connection 2**
- **e) Warranty 2**
- **f) General Information 2**

2. Technical Specification
- **a) Cooler Duties 3**
- **b) Dimensions 3**
- **c) Pipe Sizes & Maximum Pipe Runs 4**
- **d) Refrigerant Charge 4**

3. Electrical Details & Fuse Ratings 5

4. Wiring Diagrams
- **a) JCC25E & JCC60E 6**
- **b) JCC40E & JCC50E 7**
- **c) All Outdoor Units (J5LC15C – J5LC28C) 8**

5. Locating & Mounting Indoor Unit
- **a) Location 9**
- **b) Fixing 9**
- **c) Service Connections 9**

6. Locating and Mounting Outdoor Unit
- **a) Location 9**
- **b) Fixing 9**
- **c) Service Connections 9**

7. Refrigerant Pipe Connections
- **a) Pipe Installation 10**
- **b) Unit Connections 10**
- **c) Insulation 10**

8. Pressure Testing
- **a) Pressure Testing 10**
- **b) Evacuation 10**

9. Electronic Controller Setup
- **a) Models - JCC 25E & JCC 60E – Danfoss EKC 101 11**
- **b) Models – JCC 40E & JCC 50E – Dixell XR 20C 11**

10. CE Documentation 12

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1. Installation & Safety

a) Installation
The units making up the J & E Hall International JCC cellar cooling system must only be installed by a qualified engineer following the mandatory and local codes of practice

b) Handling
Care must be taken when the units are moved or lifted to ensure that everyone and everything is safe. When lifting equipment is used, it must be suitable and approved

c) Application
Ensure that the unit is only used for a suitable purpose / application

d) Electrical Connection
Electrical work and connections must be made by authorised electricians in accordance with mandatory regulations and local codes of practice

e) Warranty
Failure to comply with the manufacturer's installation instructions could affect the performance of the unit and invalidate the warranty. Warranty is also subject to the implementation of a planned service / maintenance agreement

f) General Information
- All works must be carried out in accordance with manufacturer's installation and operating procedures
- Good working practices must be followed at all times so that mechanical and electrical hazards are kept to a minimum
- The equipment has been fitted with covers to prevent access during operation. These must be kept in place and additional guards fitted where necessary
- The equipment must be connected to a local external electrical isolator as one is not supplied fitted to the unit. The rocker switch fitted to the indoor unit is for control isolation only.
- Servicing and maintenance must only be carried out by a fully qualified engineer. Before any work is started, electrically isolate the units to make sure they cannot be switched on accidentally and allow sufficient time for the isolated parts to come to rest before removing panels. Electrical isolation switches MUST be labelled to show that they are off during the servicing and maintenance operations. Care must be taken not to touch components or pipework which may be hot or cold, for a period after the unit is electrically isolated
- After completing any tasks ensure all guards and covers are correctly refitted before restoring the power to the unit
- The equipment has been specifically designed to run at low noise levels; but if further noise reduction is desired, sound and vibration attenuators may be required. For noise level guidance refer to technical literature, or contact the distributor for advice

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2. Technical Specification

a) Cooler Duties

Model	Cooling Capacity kW	Refrigerant Type	Indoor Unit Airflow M³/S	Noise Level dB(A)
JCC25E	2.45	R410a	0.83	Internal 45
J5LC15C			N/a	External 30
JCCC40E	4.05	R410a	0.83	Internal 45
J5LC20C			N/a	External 32
JCCC50E	5.10	R410a	1.11	Internal 45
J5LC25C			N/a	External 32
JCC60E	6.13	R410a	1.11	Internal 45
J5LC28C			N/a	External 34

Notes:

1. dB(A) Levels are free field at 10m
2. Duties Quoted @ 12.7ºC db, 10ºC wb internal, 32ºC external

b) Dimensions

Model	Width (mm)	Depth (mm)	Height (mm)	Weight (kg)
JCC25E	865	370*	480	30
J5LC15C	700	250	540	30
JCC40E	865	370*	480	33
J5LC20C	855	328	648	59
JCC50E	900	370*	540	36
J5LC25C	855	328	750	62
JCC60E	900	370*	540	38
J5LC28C	855	328	750	68

* Excluding fan

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c) Pipe Sizes and Maximum Pipe Runs

Model	Pipe Connection Sizes		Max Pipe Run	
	Liquid	Gas	Length	Rise
JCC25E	1/4"	1/2"	12m	5m
J5LC15C	1/4 "	1/2"		
JCC40E	1/4"	5/8"	15m	8m
J5LC20C	1/4"	1/2"		
JCC50E	1/4"	5/8"	15m	8m
J5LC25C	1/4"	5/8"		
JCC60E	3/8"	3/4"	15m	8m
J5LC28C	3/8"	5/8"		

Notes:

1. J5LC Condensing Units are Pre-Charged for a 7.6m Pipe Run
2. Run Pipework in the same size as the condensing unit connection and use copper reducers at the evaporator where necessary

d) Refrigerant Charge

- JCC25E matched with J5LC15C – Pre Charged with 0.83kg R410a Additional Charge – 20g per metre up to maximum permissible
- JCC40E matched with J5LC20C – Pre Charged with 1.38kg R410a Additional Charge – 20g per metre up to maximum permissible
- JCC50E matched with J5LC25C – Pre Charged with 1.54kg R410a Additional Charge – 20g per metre up to maximum permissible
- JCC60E matched with J5LC28C – Pre Charged with 1.80kg R410a Additional Charge – 50g per metre up to maximum permissible

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3. Electrical Details & Fuse Ratings

Model	Power Supply v/ph/hz	Power To	Interconnecting Cable	FLA (Amps)	LRA (Amps)	Fuse Rating Amps
JCC25E	240/1/50	Indoor	2 Core + E	6.04	N/A	16
J5LC15C					24	
JCC40E	240/1/50	Indoor	2 Core + E	7.61	N/A	20
J5LC20C					27	
JCC50E	240/1/50	Indoor	2 Core + E	9.03	N/A	25
J5LC25C					32	
JCC60E	240/1/50	Indoor	2 Core + E	12.82	N/A	32
J5LC28C					65	

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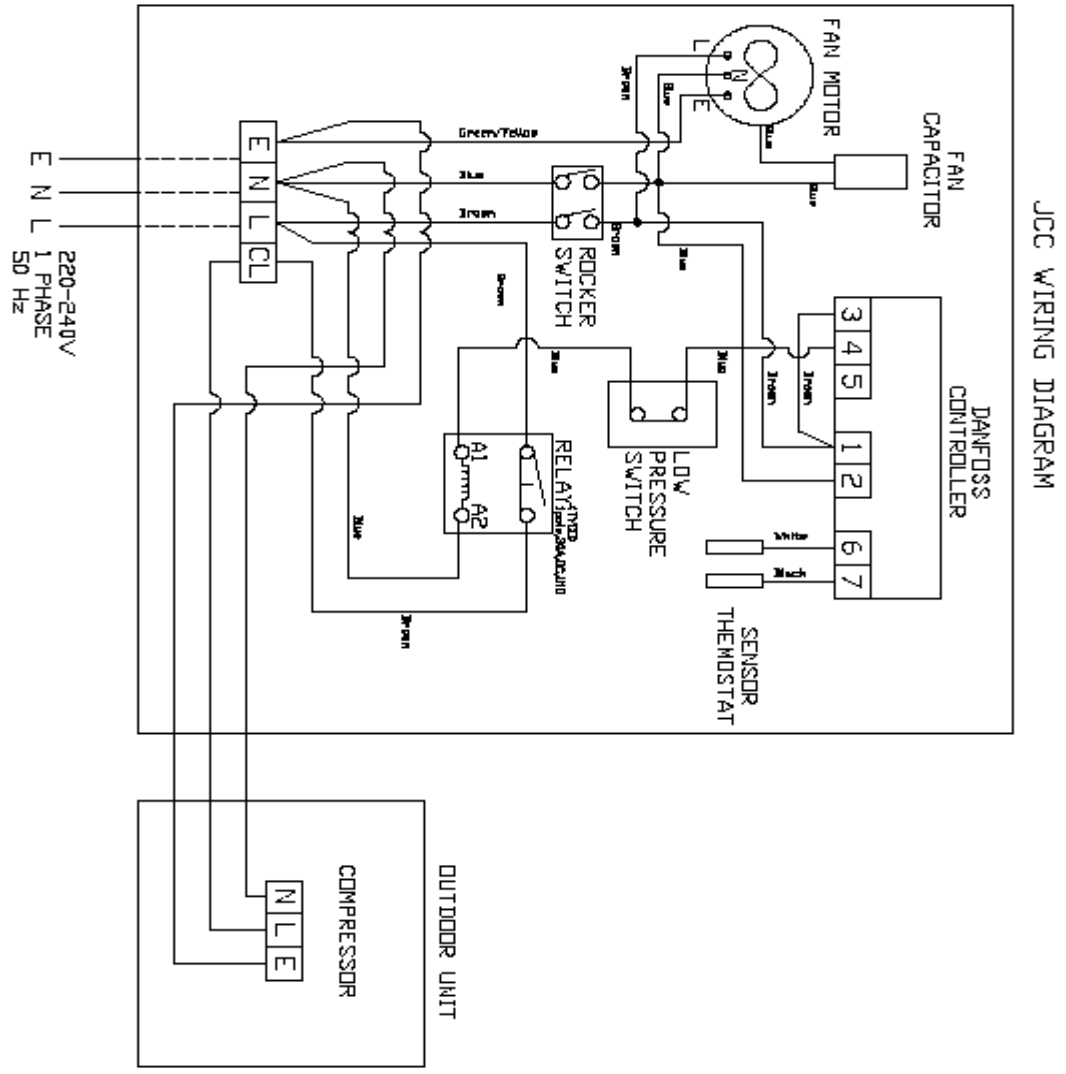
4.Wiring Diagrams

JCC25E & JCC60E (Indoor)



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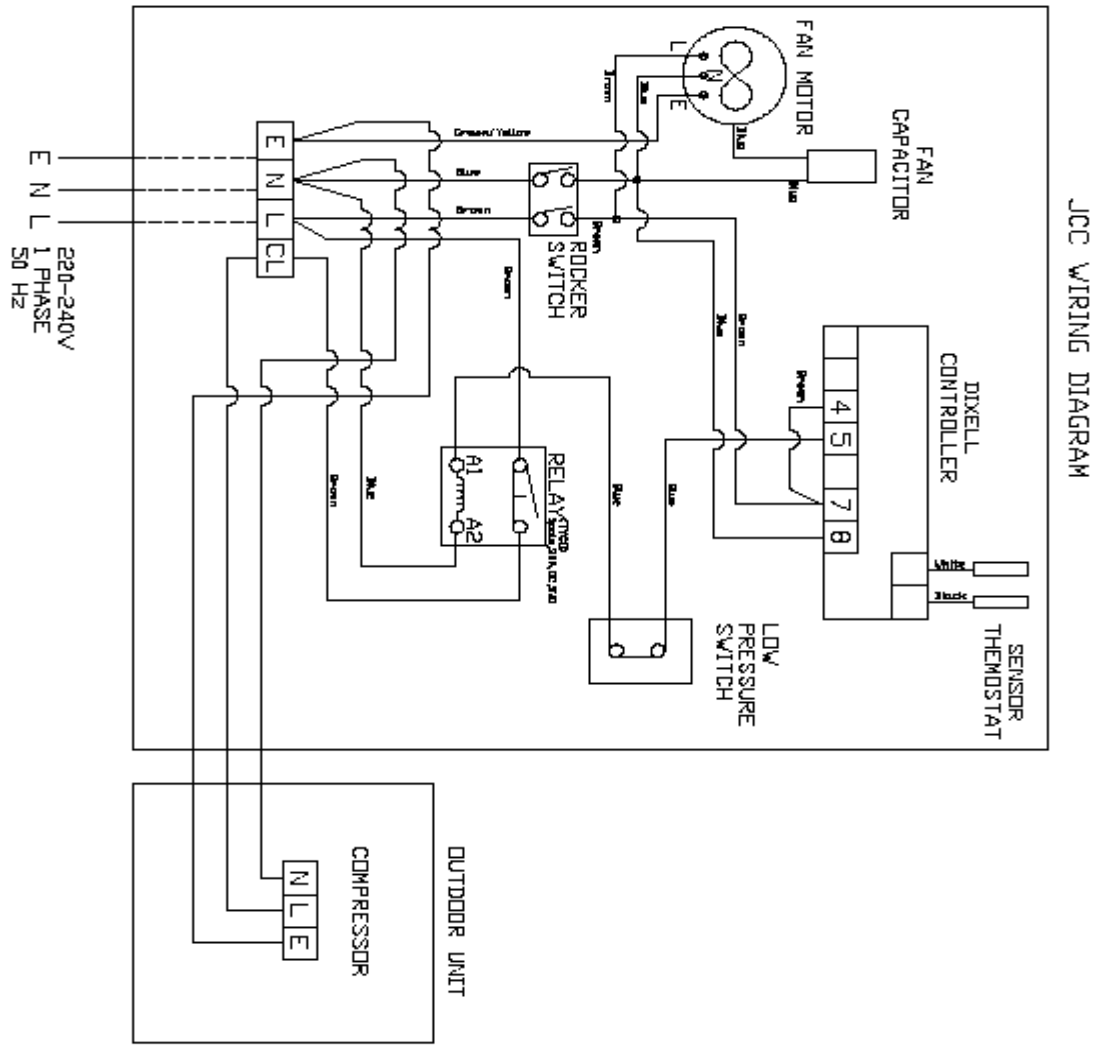
JCC40E & JCC50E (Indoor)



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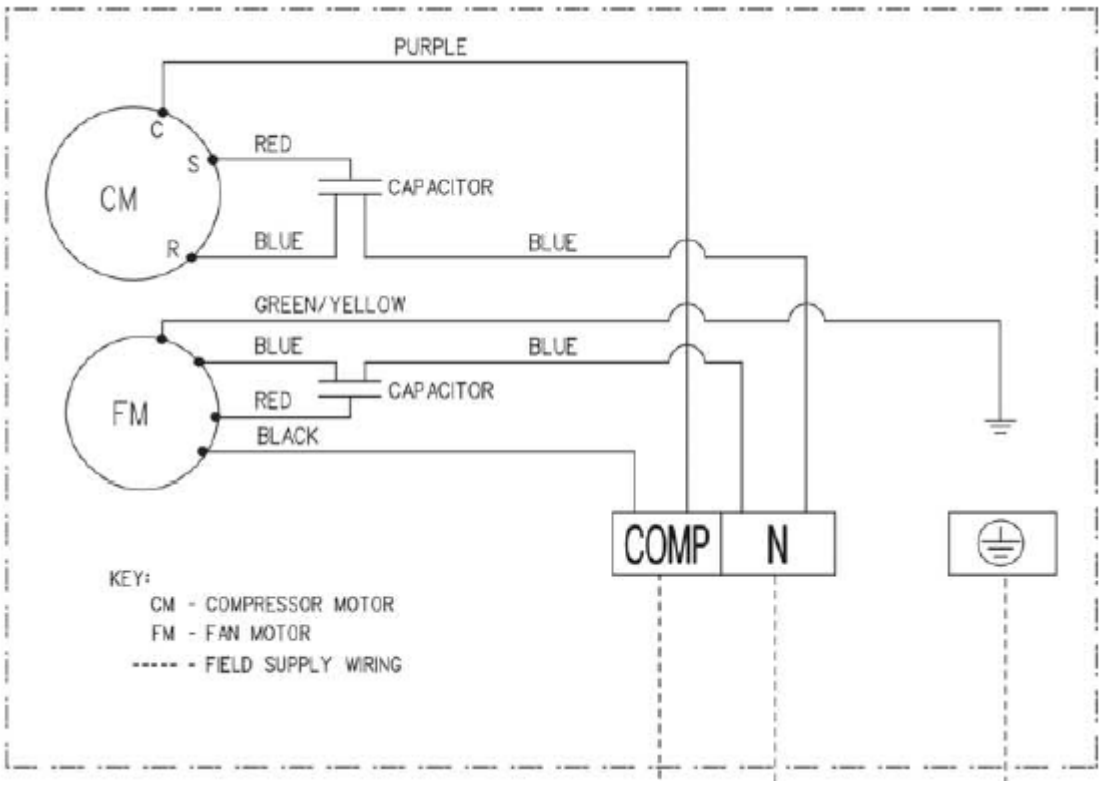
All Outdoor Units
(J5LC15C – J5LC28C)



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5. Locating & Mounting Indoor Unit

a) Location

The JCC Evaporator unit should be mounted level on a load bearing wall or ceiling. The minimum distance from the floor to the bottom of the unit should be 1.8 metres to ensure good air convection. The side inlet grilles should have a minimum clearance from obstruction of 100mm and the minimum clearance in front of the unit should be 1500mm.

b) Fixing

The evaporator should be fixed to the wall using the two off rear fixing holes or to the ceiling using the two off top fixing holes. 10mm diameter rawbolt type fixings (not supplied) with large steel washers are necessary for local load bearing of the indoor evaporator.

c) Service Connections

The refrigerant pipe connections are accessed through the left hand side panel. Cable entry is on the right hand side of the unit. A 3/4" BSP drain connector is supplied with the manuals (or cable tied to the fan guard) to be site fitted to the condensate tray.
(Please note the correct way to fit the drain fitting locknut as below):

6. Locating & Mounting Outdoor Unit

a) Location

Install the J5LC condensing unit in such a way that hot air distributed by the unit cannot be drawn back in again causing a short circuit of hot discharge air. Allow sufficient space around the unit for maintenance. Ensure that there are no obstructions to the air flow in to or out of the unit. The location must be well ventilated so that the unit can draw in and distribute plenty of air to keep condensing temperatures down and thus maintain cooling capacity. There should be a minimum clearance of 150mm from obstructions to the air inlet at the side and rear of the condenser and at least 1000mm in front of the unit for air discharge. It is recommended that at least 500mm clearance is maintained to the service port side of the condenser to provide good access for maintenance.

b) Fixing

J & E Hall International Condensing units can be floor mounted or wall mounted using appropriate load bearing wall brackets (not supplied). In areas where noise is a particular concern, the unit can be mounted securely on anti vibration strips (not supplied).

c) Service Connections

Access to the flared refrigerant service ports and electrical cable entry is from the right hand side of the unit.

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7. Refrigerant Pipe Connections

a) Pipe Installation
Run the suction and liquid lines in the appropriately sized refrigeration grade copper tubing as per the tables in section 2 (c). Pipework should be run in the same size as the connections on the J5LC Condensing unit.

b) Unit Connections
The outdoor condensing unit connections are terminated in male flare connections as detailed in table 2 (c). Indoor pipe connections are provided as plain copper tails that may require a reducing fitting to match the pipework size to the evaporator connection size.

c) Insulation
Use appropriate insulation tubing with a minimum 3/8" thickness on both refrigerant lines.

8. Pressure Testing

a) Pressure Testing
Before evacuating the system it must be tested for any potential leaks. A pressure leak test should be carried out using oxygen free nitrogen (OFN). NEVER USE OXYGEN FOR PRESSURE TESTING SYSTEMS. Before starting any pressure testing, ensure the area surrounding the system is safe, inform relevant personnel and fit warning signs indicating high pressure testing. Also use correct PPE as required.

A simple procedure for testing is as follows:

1. Pressure system slowly up to 3 bar (45 psi) for 5 minutes and check for any signs of leakage.
2. Increase pressure slowly up to 10 bar (150 psi) for 5 minutes and check for any signs of leakage.
3. Increase pressure slowly up to 33 bar (500 psi) and check for any signs of leakage. Leave system under pressure for 24 hours.

Listen for any possible leaks and check all joints with bubble spray. If any leaks are discovered, release pressure slowly from system until empty, repair leak and then restart pressure testing procedure. Never attempt to repair a leak on a pressurized system.
A strength test should also be incorporated according to local regulations.
Once testing has been completed satisfactorily release the pressure from the system gradually and safely to external atmosphere.

b) Evacuation
After the pressure testing has been completed, the system should be thoroughly evacuated to reduce the risk of moisture being present. It is recommended that a triple evacuation procedure is carried out as follows using a suitable vacuum pump, a torr gauge and oxygen free nitrogen (OFN):

1. Evacuate system down to 10 torr.
2. Break the vacuum with OFN to a pressure of 1 bar.
3. Evacuate the system to 5 torr.
4. Break the vacuum with OFN to a pressure of 1 bar.
5. Evacuate system a third time to 2 torr or lower if possible.
6. Isolate vacuum pump and leave system for 30 minutes and ensure vacuum is held.

Once above has been completed satisfactorily then refrigerant charge can be introduced to the system.

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9. Electronic Controller Setup

JCC 25E & JCC 60E – Danfoss EKC 101

a) To check the setpoint
Press both buttons on the controller together. Set temperature is displayed.

b) To change the setpoint
Press both buttons on the controller together. Set temperature is displayed.
Then press either the top button to raise the setpoint or the bottom button to lower the setpoint. Press both buttons again to save the new setpoint.

c) Manual Defrost
Press and hold the lower button for four seconds. To stop the defrost press and hold the lower button for a further four seconds.

JCC 40E & JCC 50E – Dixell XR 20C

a) To check the setpoint
Press and immediately release the **SET** key. The display will show the current set point value.

b) To change the setpoint
Press and hold the **SET** key for two seconds. The current setpoint value will be displayed and the Snow LED starts blinking

Press either the ↑ ↓ keys within 10 seconds to adjust the setpoint up or down.
To memorise the change press the **SET** key again

c) Manual Defrost
To start a manual defrost press and hold the **DEF** key for 2 seconds

d) To lock the Controller
Press and hold both the ↑ ↓ keys for more than three seconds. POF will appear on the controller display. It is not now possible to change the setpoint

To cancel the controller lock, press and hold the same keys for three seconds until PON is displayed. It is now possible to change the setpoint again

For further details, please contact your J & E Hall International Distributor

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10. CE Documentation

Intertek ETL SEMKO

Certificate

for European Product Safety

Reference No. 517031

Air conditioning appliance for cooling/heating

Type designation	JCC 25E, JCC 40E, JCC 50E, JCC 60E
Certificate holder	**J&E Hall Refrigeration Sdn. Bhd.** **Lot 10, Jalan Perusahaan 8** **Kawasan Perusahaan Pekan Banting** **42700 Banting** **Selangor Darul Ehsan.** **MALAYSIA**
The product complies with the standard(s)	EN 60335-1:2002+A11+A1 EN 60335-2-89:2002+A1 EN 50366:2003
Date of expiry	25 April 2011
EU Directive information	*The product satisfies the provisions for CE marking according to the Low Voltage Directive 73/23/EEC and 93/68/EEC.*

Terms in Intertek Semko's Agreement on certification. Additional information in Appendix.

Certification Body Intertek Semko AB, Product Certification *Place* Kista - Stockholm

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